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Australasian Association for the Advancement of Science.

HOBART—MELBOURNE MEETING,

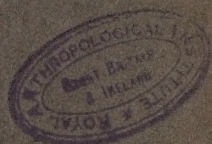
January, 1921.

*The Royal Anthropological Institute of
Great Britain*

from the Author.

PRESIDENTIAL ADDRESS

By



SIR BALDWIN SPENCER,
K.C.M.G., F.R.S., M.A., D.Litt., D.Sc.

Reprinted from Report of the Fifteenth Meeting of the A.A.A.S.,
held in Melbourne, 10th January, 1921.

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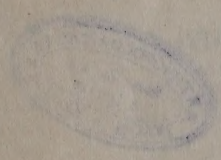
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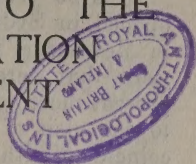
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PRESIDENTIAL ADDRESS

THE BALDWIN STENT

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PRESIDENTIAL ADDRESS TO THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE



BY

Sir Baldwin Spencer, K.C.M.G., F.R.S., M.A.,
D.Litt., D.Sc.

We are meeting to-day under very special conditions, and, as President, my first duty is to express to our Tasmanian members, and more especially to the officials upon whom has fallen the duty of organizing the Hobart meeting and who are now unable to be with us, our profound regret that it has been deemed necessary, at the last moment, to transfer the place of meeting from Hobart to Melbourne. It was only with great reluctance, and after a very careful attempt to forecast the probability, under existing conditions, of members being able, with certainty, not only to reach, but to return from, Tasmania, that the decision was arrived at. Many of the older members have the most pleasant recollections of past meetings in Tasmania, and it is a matter of great disappointment to all of us that we are unable to hold this meeting under the shadow of Mt. Wellington, amidst the lovely surroundings of Hobart, with its great harbour, second in dignity and beauty to none other in Australasia.

It must be understood that this is not a Melbourne meeting; it is a Hobart meeting held in Melbourne by force of circumstances, and with the courteous and generous consent of our Tasmanian colleagues. The local preparations have of necessity been made under great pressure and at very short notice during the holiday season—during, indeed, only two working weeks—and, though it is not usual to mention such matters in a Presidential address, I feel sure that the members of the Association will approve of this public and official recognition of the work of our local secretary—Dr. Sweet—and the little band of voluntary assistants associated with her, who have by their able and self-sacrificing work made possible the holding of this meeting. The war has taught us what women are capable of in regard to organization, and in the arrangements now made we have once more to recognise their efficiency, and to realize that they are a tower of strength and an ever-present help in time of trouble.

It is 33 years since the first meeting of this Association was opened in Sydney. Fourteen meetings have been held—the last in Melbourne, in 1913. At that time we had no suspicion of the years that were to intervene between the Melbourne and this our present meeting. We were looking forward with great expectation to the visit of the parent society—the British Association—but coincident with the arrival of our overseas guests came the declaration of war. It is true that the meeting was held, and that, despite the depressing conditions, the programme as arranged was carried through, thanks largely to the generous co-operation of our guests. Naturally, the thoughts of many were turned away from science, and would have been even still more so had we then been able to realize what the future years held in store. It was inevitable under the existing conditions that it should have been otherwise, but the general results, or, perhaps to speak more correctly, the after-results were naturally not what they would have been had the meeting been held under normal conditions, and had our guests been free from feelings of deep and constant anxiety.

However, the visit was evidently full of great interest to them, as it was to us, and every possible effort was made by the Federal and State Governments, the Universities, various public bodies, and private individuals to enable them to gain as much insight as possible into the scientific work of Australia, the life of the people, the economic conditions, and the nature and capacity of the country.

Before leaving Australia, the chief officials addressed a most generous and appreciative letter to the press. After stating that a much greater number of members had been enrolled for this Australian meeting than for any previous one, they say—"We may conclude by assuring the people of Australia that the announcement of a grand total for all centres of more than 4,700 members forms, in our view, a fitting climax to a meeting of unparalleled interest to the visitors, and, we venture to hope, of value to the country in which it has been held."

Now that the war is over, we trust it may be possible to continue one aspect of the work that we hoped this meeting in Australia would strongly emphasize, and that is the closer association of science workers throughout the Empire. This can only be brought about efficiently by periodical personal contact of investigators, and such becomes extremely difficult in the case of a scientific worker who enjoys what is commonly known as a "fixed income," the purchasing power of which is continually decreasing, and is now, in very many cases, much less than that paid to a mechanic, who thoroughly deserves his wage, but perhaps scarcely realizes that he owes this entirely to the work of a scientist, who is often paid much less than himself.

The vital question of the organization of science in Australia will form, later, the subject-matter of an important discussion, but meanwhile it may be pointed out that, apart from Government Departments, various State societies, and museums, all publishing papers, we have three general organizations—

(1) Our Australasian Association, meeting under normal conditions once every second year. As its members are drawn from an area equal in extent to that of Europe, it seems to be impossible to arrange for more frequent meetings of the whole body. At the same time it might be possible to form, from amongst its officers, a central standing committee or council that could meet wholly, or in sections, more often. The carrying out of investigations would require funds, which, unfortunately, are not at present at the disposal of the Association.

(2) The Australian National Research Council, acting as the Australian Branch of the International Research Council inaugurated by the Royal Society of London. A provisional council was appointed at a meeting of delegates from the various Australian scientific societies held in Sydney, in August, 1919, on the understanding that the appointment of the new council be intrusted to that of our Association at this meeting. In view of economizing, in regard both to time, energy, and expense, it may be worth considering whether the National Research Council could not be constituted as a standing committee of this Association, which represents all scientific bodies in Australasia, with independent powers of initiating research, supervising generally the interests of science in Australasia, and dealing with such funds as may be placed at its disposal, reporting progress at the biennial meetings of the Association.

(3) The Commonwealth Institute of Science and Industry, founded by Act of Parliament in 1920. The constitution of this is by no means satisfactory, but at least it shows that the Government recognises the profound importance of scientific investigation, and, unfortunately, it is the only one of the three bodies that, under present conditions, will have at its disposal the funds necessary for carrying on work. It is deeply to be regretted that the wise policy adopted in regard to the constitution of the National Research Council in the United States was not adopted in Australia. There is only one other point to which I would draw attention in regard to this matter, and that is that, with our limited endowments, what we require is the organization of scientific investigation largely from the purely Australian point of view. There has met recently, at Honolulu, a Pan-Pacific

Conference. Very highly desirable, as it undoubtedly is, for all possible investigations to be carried out in the Pacific Islands, we in Australasia have biological, agricultural, and ethnological problems peculiarly our own calling aloud for investigation. We cannot attempt to do things on the generous scale of America, and with our very limited means perhaps our work would yield best results, not only for Australia, but for the world at large, if directed more especially to the elucidation of problems presented to us by Australasia and its dependencies.

There are one or two matters of personal interest to our Association to which I wish to refer briefly. This is our third Hobart meeting; the first was held in 1892, and the second in 1902. Of the Presidents, Vice-Presidents, General Secretaries, and Treasurers of these meetings, only one is still left with us—Professor Liversidge, the founder of our Association, to whom the Council has to-day sent a message of greeting.

We have to record the great loss which the Association has suffered in Tasmania by the death, since our last meeting there, of Mr. R. M. Johnston and Mr. A. Merton, both of whom have been closely identified with the work of the Association in that State.

Mr. Johnston was Government Statistician and Registrar-General of Tasmania from 1881 until his death in 1917. His pioneer work, more especially in regard to the geology of Tasmania, entitles him to the high regard of all who have had experience of this class of work in a young country where literature is scarce, intercourse with other workers practically impossible, and the opportunity of research much limited by arduous and multifarious official duties. Those of us who had the privilege of his personal friendship know well that he was not only a scientist, but a man of simple character and high ideals.

As local secretary of the Association for many years, during which on two occasions, in 1892 and 1902, he organized and carried out with conspicuous success the local business and arrangements of the Hobart meetings, Mr. Morton's name will always be honorably associated with the early history of our Association, and also with that of the Royal Society and Museum of Tasmania.

It is impossible to mention individually the names of those members who have taken part in one way or another in special work during the war. I may, however, refer to one by name, as he will serve as the highest type of what various Australian scientists have done, and that is our twice President, Sir Edgeworth David. At an age when most men would be unable to undertake the hard work and face the dangers of the battlefield,

the rigours of European winters, and the hardships of trench life, he gallantly offered his services to his country. The discoverer of the location of the South Magnetic Pole did equally great work on the Western Front as he did in the Antarctic, and we are proud and thankful to have him safely back amongst us, and we greet him as the doyen and leader of scientific work and workers in Australasia.

In a Presidential address for an Association such as this, which represents all the various branches of science, one has the choice of two methods—either to attempt a general survey of science and scientific developments since the last meeting, or to confine one's self to some special branch with which the writer may be more especially acquainted. In the early days of the parent Association in Great Britain, when science as we know it now was more or less in its infancy, it was practically possible for men like Huxley, Tyndall, Faraday, and Hooker to have a general all-round grasp of the various branches, both of physical and natural science. The rapid advancement of scientific investigation soon put an end to such universality of scientific knowledge, and now it is not possible for any worker to have a thorough and intimate acquaintance with more than one branch of science, or even one part of this.

In the Presidential addresses delivered before the various sections you will hear from those who are competent to tell us something of what has been done during recent years in the different sciences that they represent.

I therefore propose to take as the subject of my address a very restricted one, though of peculiar interest from an Australian point of view, that may be said to lie almost on the border line of science and the historical side of literature.

Some 200 years ago the well-known line was written, "The proper study of mankind is man," but it was only at a very much later date that mankind began to study the more or less primitive man, as revealed by various savage, barbaric, and semi-civilized peoples. In fact, it is not very long ago since most people held the self-gratifying opinion that the so-called lower races were a different species of human beings to themselves, and objected strongly to being told that their far-away ancestors were on much the same physical and cultural level as the savages of to-day, and that to understand the evolution of man and the history of mankind as culminating in themselves it was necessary to study the structure, beliefs, and customs of their savage ancestors. Not only this, but they were told that it was equally necessary, though naturally it upset the equanimity of the anthropocentric grandparents, and even parents of ourselves, to study the relationship of the same far-away ancestors to still lower and less human-like types of animals.

In fact, it had, at last, to be realized that animal life was one long process of gradual development, some forms halting on the way or branching off, as it were, sideways; others, incapable of carrying on the struggle, turning back and degenerating; others, with endless travail, ever straining upwards.

In Australia we have yet remaining with us, though in rapidly diminishing numbers, representatives of what is probably the most backward human race now extant. It reveals to us in many aspects stages that have been passed through during the early development of mankind.

The science of anthropology is divided into two distinct branches—(1) that of physical anthropology concerned with the structure of the human body; and (2) social or cultural anthropology. In regard to the first, a considerable amount of work has already been done, so far as Australia is concerned. So long as any aborigines or their skeletons remain, they may be studied from a somatological point of view; but, in regard to the second, the matter is entirely different.

To study scientifically the beliefs and customs of a savage tribe—I do not mean to write casual papers, of which we have far too many—is a very different, and even a more difficult, task. It requires a peculiar faculty quite distinct from that of making physical measurements, a faculty which very few of those who have written on the beliefs and customs of Australian natives possess, of freeing themselves from their own inherited beliefs and endeavouring to see things from the point of view of a savage.

I shall deal first with certain aspects of the social or cultural anthropology of Australian aborigines, and more especially with their social organization, as illustrating an early stage in the development of mankind and affording us an insight into certain beliefs held and customs practised by our far-away ancestors; and, second, with the difficult question of the origin of their complex culture.

The Australian aboriginal, though probably the most backward, is, however, very far removed from anything like primitive man—a much greater gap probably separates him from, say, Neanderthal man than from ourselves, and, again, an even greater one separates Neanderthal man from the earliest beings to whom the term human could be applied.

There have been many writers on various branches of social anthropology in Australia, but only a few of them have been trained in scientific work; and, after the perusal of very many publications, it has been brought home to me that what we need most of all in regard to Australian anthropology, from the cultural side, is an “index expurgatorius.” More especially it is essential to recognise that in matters concerned with their customs, beliefs,

and organization, investigations carried on amongst the remains of tribes that have been long in contact with white men are liable to be very misleading. It is only those who have worked in the field, both amongst natives in their natural state and amongst others who have been in more or less close contact with settlements, who can realize how rapidly, under the latter conditions, their genuine and primitive customs become modified or even lost. The greater the difference between the cultural levels of two associated races, the more rapidly does the lower one succumb; there is no such thing as grafting the higher upon the lower.

The marriage rules, for example, owing to the rapid diminution in numbers that inevitably occurs, soon break down, and the younger men, under the protection of the white man, only too readily shake off their old customs and beliefs, and, unfortunately, unless specially protected, as they have been only too little in Australia, are incapable of receiving anything better in return.

The history of the study of cultural anthropology in Australia, so far as the more important work is concerned, is comparatively simple. One of the earliest writers to give us any intelligent account of the customs of the natives was Collins (1789-1802), whose quaint illustrations, published in his *Account of the English Colony of New South Wales*, are of peculiar value, because they serve to show that the youths during initiation were shown ceremonies evidently connected with totems—that is, animals or plants with which they were supposed to be associated. Collins, of course, had no idea of this, nor was there any further record of such until Mr. Gillen and myself discovered the remarkable development of this feature in Central Australia just 100 years later. Since then, other workers have recorded them, more especially in New South Wales.

In 1820 it had been shown in the pages of *Archæologica Americana* that amongst certain of the American tribes there was a definite social organization regulating marriage, and that there were groups of individuals the members of each of which were closely associated with some animal or plant, which is now spoken of as the totem of that particular individual or group; and, further that the totem group or clan was an exogamous group, that is, a man of one group must take his wife from some other. Not only this, but these totem clans were grouped into phratries, which again were exogamous. For example, amongst the Creek Indians there are said to be some twenty clans. A panther might not marry a panther nor a wild cat; these two together forming a phratry.⁽¹⁾ The number of phratries apparently varied in different tribes from two to ten, and both odd and even numbers

(1) I have taken these facts from the summary given by Sir James Frazer in his great work on Totemism and Exogamy.—Vol. 1, pp. 56, &c.

are met with, indicating a fundamental difference between these groups and those in Australia, to which, unfortunately, the same name has been applied by some writers.

When first Australia was visited by Europeans they had no opportunity of investigating the natives; in fact, from the time when Dampier first touched the western coast line, and for long years afterwards, the general conclusion in regard to them was expressed in the well-known phrase, "Manners none; customs beastly."

The most important introduction to anything like a serious study of the aborigines was first made in Western Australia by Scott Lind, Medical Officer at King George's Sound from 1828-1829; at a later period by Grey, in 1841; and, somewhat later again, by Eyre, in South Australia, in 1845. Though Grey was indeed the first to detect the existence of intermarrying classes, his information was, however, too vague to suggest more than that the Australian tribes had some organization akin to that described amongst the American Indians. We get further hints of this again in Moore (1841), Schurmann (1844), and others, but nothing of any definite nature. The first who seriously attempted to deal with the social organization and marriage customs was the Rev. Wm. Ridley, who, between the years 1853-1875, published much valuable pioneer work.

The real foundation of Australian anthropology, from the cultural side, was, however, laid when the late Dr. Howitt and Rev. Lorimer Fison began to collaborate, with the result that, in 1880, they published *Kamilroi and Kurnai*, in which, for the first time, there was given a clear outline of the social organization of a typical Australian tribe. During more recent years, Dr. Howitt, in *The Native Tribes of South-east Australia*, summarized the whole of his own work, carried on also with the aid of numerous correspondents, from 1873-1900. In 1878, Brough Smyth published his compilation entitled *The Aborigines of Victoria*; and, in 1886, E. M. Curr issued another called *The Australian Race*. In most cases it is difficult to estimate the amount of reliance to be placed upon the statements of the contributors, who, save for a very few, such as Howitt and Ridley, were superficial and untrained observers. Other investigators, such as Etheridge, were studying the technologic work of the aboriginals, and in more recent years Messrs. Kenyon and Mahony have devoted themselves to a most comprehensive study of their stone implements. The exhibition of some 15,000 of these, shown by them to a distinguished gathering of European anthropologists, in the Melbourne Museum, in 1914, aroused the keenest interest. In Queensland, Roth was doing valuable work, more especially from the point

of view of technology and social organization. His results, published by the Queensland Government under the title of *Ethnological Studies among the North-West-Central Queensland Aborigines*, and later in the *Records* of the Australian Museum, are of great value. The Cambridge expedition to the Torres Strait Islands, in 1898, under the leadership of Dr. Haddon, resulted in the publication of what is probably the most complete account that it is now possible to secure of the culture of these mixed peoples. From Queensland, also, Mrs. Langloh Parker published two volumes of *Legendary Tales*, and, later on, *The Euahlayi Tribe*; and the Rev. J. Mathew, *Eaglehawk and Crow* and *Two Representative Tribes of Queensland*. The report of the Horn Expedition contains a short account of certain features of the Arunta Tribe, partly gained during a hurried visit by the late Sir Edward Stirling, and partly drawn up from notes supplied to him by Mr. Gillen. At a later date it was my good fortune to be able to collaborate with Mr. Gillen in the investigation of practically uncontaminated tribes in Central and North-central Australia working in the field, living with the natives and watching their ordinary and ceremonial life under the most favorable conditions. By the death of Mr. Gillen, who presided over the section of Anthropology at our Melbourne meeting, in 1900, we have lost a most able and enthusiastic field worker amongst the natives, whom he knew well and understood, and to whom every student of Australian anthropology and myself, most of all, owes a deep debt of gratitude. At a later period, the Rev. C. Strehlow published further work dealing with the Arunta and Luritja tribes in Central Australia, and I was able a few years ago to study the natives of the far Northern Territory and of Bathurst and Melville Islands, amongst whom, as also in Central Australia, Dr. H. Basedow has done valuable work.

Until recently, though some of our earliest knowledge came from Western Australia, we have gained thence no further information. The work, however, published during the past few years by Mrs. Bates and Mr. A. R. Brown, though unfortunately conducted amongst tribes who, as the authors say, have long since abandoned the performance of old customs, is of considerable value, more especially because it reveals the presence of tribes in Western Australia closely akin in their organization and beliefs to those of Central Australia.

I have only in this brief account mentioned what I think are the main records in regard to Australian aborigines from the cultural point of view. Apart from compilations, such as those of Brough Smyth and Curr, numberless other smaller contributions have been made, most of them of trivial value, and often

of doubtful reliability, and the time has now come for us to attempt some sorting out of the accumulation of material gathered together during the past century.

There is, however, one special matter in connexion with anthropological research in Australia to which I wish to draw attention. Nearly all such researches have been carried on by men; in fact, save in decadent tribes, the members of which have lost their respect for, and to a large extent their knowledge of, old customs and beliefs, it would be useless for a woman to attempt to pry into sacred matters so far as the men are concerned. Any attempt to do so would be keenly resented in uncontaminated tribes, and in others the information thus derived would be of doubtful value. How strong this sentiment is may be gauged from the fact that I have seen a woman with her eye destroyed by a firestick simply because she had quite innocently picked up a sacred bull-roarer that had been accidentally dropped in the bush. It is quite true that very old women are allowed to know a little, but, as far as one can judge, only a very little, and they are quite as reticent as the men. On the other hand, it is quite possible that the women have their own secrets, or, at all events, a different outlook from that of the men in regard to those of the latter. You have as a man investigator, when studying a native tribe in anything like its normal state, to impress the men with the idea that you are fully seized of the fact that women and children must know nothing. They must realize that you understand the importance of silence. If they suspect you, or, indeed, any one of themselves, of being what the Arunta man calls "Irkun oknirra," or as a native once, very ungallantly, described it to me as "All same woman, always talking," they shut up like an oyster. It is most desirable that, before it is too late, an investigation of beliefs and customs from a woman's point of view should be made by a woman trained in anthropological methods. A few years ago I was fortunate enough to arrange for such an investigation under exceptionally favorable conditions in the Northern Territory, but the war intervened and prevented the carrying out of the plan. I feel sure that amongst Australian tribes a woman who would simply investigate matters from the outlook of a native woman, and would not attempt to gain any information of, or to investigate beliefs and customs especially associated with, the men, would do most valuable work.

After these preliminary remarks I pass on to deal with the organization of Australian tribes as revealing to us an early, but by no means a really primitive, state of human society, but at the same time giving us some little idea of the nature of this. The subject is one of great extent, and all that I propose to do is to summarize in broad outline our knowledge of it, which is probably now fairly complete.

Investigations during recent years, though adding details, have not, with one exception, revealed anything new of importance in regard to it. Two main systems can be recognised; the first may be described as the Tribal, the second as the Social. In regard to the Tribal organization, there is clearly a threefold division into tribe, local group, and family, with also a somewhat indefinite grouping of tribes possessing common interests of special nature to form wider communities.

It might be thought a simple matter to define a tribe, but in reality it is difficult to do so except in somewhat general terms, and great confusion has arisen owing to the fact that, not seldom, writers have regarded as a tribe what is really only a local group. It may be conveniently described as follows:—A tribe is composed of a number of individuals speaking a common language and regarded as owning a definite tract of country the boundaries of which are known to them and recognised by the members of other tribes.

Of these two points, the first is perhaps the more important, because in many cases there is, so far as ownership of land is concerned, a further recognition of local ownership, though at the same time this does not override the wider tribal rights. In some rare cases statements have been made indicating individual ownership, and even of a father parcelling out land amongst his sons, but I think that these can be dismissed as the casual and mistaken observations of untrained writers who judged the aboriginal from the white man's point of view, and, moreover, they were statements made by natives well acquainted with the fact that the white man had private property in land. It is essential that the greatest caution should be exercised in accepting evidence of this nature. The natives are wonderfully quick in perceiving that there are different grades of rank and importance amongst white men, and that, for example, the private possession of land is evidently a sign of superiority. They are most apt mimics, and when a native, such as the head man of a local group, tells a white man that he owns certain land, the statement, as likely as not, is made with the idea of impressing the former with a sense of his, the native's, importance, rather than with strict regard to its literal truth; and, further still, the expression "owning the land," does not mean to him what it does to us.

Amongst all the central and northern tribes there is no such thing as private ownership, but at the same time there are distinct local groups, each with its head man, and the latter, speaking to a white man, would probably describe a given tract of country as belonging to him, but in doing so he would only be speaking as the representative of a group, and closer investigation would reveal the fact that the whole tribal country was divided into sections,

each regarded as belonging more especially to a particular group, but the whole recognised as the common property of the tribe. For example, in the Arunta and allied tribes in Central Australia each local group has a sacred spot called "Ertnatulunga"—often a little chasm or cave amongst the rocks, or merely a hole in the bank of a creek—in which are stored the sacred churinga or bull-roarers. It is in charge of the head man of the local group. Speaking of this to a white man, he would certainly describe it as belonging to him, and yet he has no power whatever to part with its contents—no more right, indeed, than the youngest member of the tribe. The ground surrounding it is sacred, nothing on it may be touched; even an offender against tribal law is safe so long as he remains there, giving us the earliest foreshadowing of a "city of refuge." So far as the question of dealing with the contents of the Ertnatulunga during the performance of ceremonies is concerned, the decision of the head man is final, but the property is strictly entailed, and the overlordship passes from the father to the eldest son, or, where there is no actual son, then to the eldest tribal son.

Amongst Australian tribes we can recognise the germ of the idea of restricted rights in landed property, but no such thing as individual rights. A man belonging to one local group will not enter the country of another in his own tribe without asking permission to do so, which is never withheld. On the other hand, members of one tribe would never venture, as friends, on the land of another except after having received a definite invitation to attend some ceremony conveyed in recognised form by a messenger carrying a sacred emblem, which acts as a passport and secures his safety when traversing the country of another tribe, or after waiting on the borderland until they were formally received as friends, when they would be greeted by the home tribe in some special way indicative of friendly feeling. Should they enter uninvited—that is, as enemies—they would do so at their own risk.

In the country of each local group again there are certain camping grounds common to the members of the group and occupied by a varying number of families, each comprising a man and his wife or wives and their children. There is no such thing as any one man having a pre-emptive right to any particular piece of land.

In addition to the tribe, local group, and family, there is a further, though only somewhat vaguely defined, organization of the tribes into what Dr. Howitt called "nations." The term is a little unfortunate, because it implies the existence of a more strongly marked cohesion, amalgamation, and also community of language than actually exists amongst the tribes forming these

so-called "nations." It is, however, of importance to note that groups of contiguous tribes are more or less loosely allied to one another. Thus, for example, in Central Australia we have, in the region of Lake Eyre, what Dr. Howitt called the Dieri nation, consisting of tribes counting descent in the maternal line. To the north of this we have the Arunta nation, including the Arunta and others, counting descent in the male line. North of this there is the Warramunga, including this important tribe and others, such as the Tjingilli, Worgaia, Umbaia, Bingongina, Walpari, Wulmala, and Gnangi. Inland, to the west of the Gulf of Carpentaria, there is the Binbinga, including the latter and the Allaua and others, whilst on the shores of the gulf there is the Mara, including the Anula, Nullakun, and others. Certainly the best, perhaps the only real, proof existing at the present day of any alliance amongst these groups of tribes forming the nations is that their members foregather by mutual invitation for the performance of certain ceremonies, more especially those of initiation, or when a special food supply is available, as, for example, the Bunya-bunya fruit in Queensland or the Bogong moth in Victoria. These invitations are strictly limited to the members respectively of well-defined groups of tribes.

Two theories may be suggested to account for this association. According to one, it may be regarded as a recent development, certain tribes, as it were, drawing together and aggregating in groups. According to another, we may regard it as indicating a splitting up of former larger communities, of which the tribes at present existing are the surviving components. In view of evidence to be referred to later, I am inclined to think that this present temporary gathering together points, not to a modern aggregation, but to a gradual breaking up of once larger into smaller communities.

The extraordinary number of tribes each with its own distinct dialect, and occupying its own country, is one of the most difficult things to explain in regard to Australian ethnology. It is not as if the tribes were usually separated from one another by physical barriers. In a few cases when, as in the North, they occupy islands, such as Melville and Bathurst, this is so; in the South-west, the rugged ranges of the Great Divide shut off a few coastal tribes in Victoria and New South Wales from those of the interior, but otherwise there are no obvious geographical barriers; in fact, over the whole central area the reverse is true. Between Lake Eyre, in the south, and Darwin, in the north, there is only one possible barrier in the form of the Macdonnell Ranges, that run east and west for 300 miles, but they lie right across the centre of the country occupied by the Arunta Tribe. It is apparently only climatic conditions that have caused the segregation of groups of tribes. The remnants in Central Australia of great

river systems, no less than those of giant marsupials and other animals, such as *Ceratodus* and crocodiles, indicate in late Pleistocene times a climate quite different from that of to-day. Gradually, with the desiccation of the central area, the tribes occupying this became not only shut off from those inhabiting the limited area of coastal land, but, as the climate became still more unfavorable, there took place a further segregation of originally larger groups into smaller groups, forming the so-called nations. This, which really consisted in a drawing in towards centres, where, in time of drought, physical conditions were more favorable than elsewhere, led on to the disintegration of the groups into smaller communities that form the existing tribes, and thus in course of time, because amongst a savage people with no written language words easily become changed, the various dialects arose. This fourfold organization of nation, tribe, local group, and family is probably of fundamental significance, and has been developed in the sequence indicated, leading from the general to the special.

We may now pass on to deal with the second form of organization, commonly known as the Social. In studying that of a typical Australian tribe, the existence of two institutions stands out markedly. One is Exogamy, the other Totemism. How, when, and where these first arose it seems impossible to say, but both of them had their origin far back in the early days of humanity. The two, though they have become closely associated in many parts of the world, and pre-eminently so in Australia, are evidently in their origin quite independent of one another; in fact, we may have pure totemism and pure exogamy existing side by side; totemism without exogamy or exogamy without totemism.

Exogamy means marrying out, whether it be of a tribe, a class, a local group, or a totem group. A totem, to adopt Sir James Frazer's definition, "is a class of material objects which a savage regards with superstitious respect, believing that there exists between him and every member of the class an intimate and altogether special relation."

Totemism "is an intimate relation which is supposed to exist between a group of kindred people on the one side and a species of natural or artificial objects on the other, which objects are called the totems of the human group."

Totemism is undoubtedly older than exogamy, and in Australia we have probably the relics of the earliest belief in regard to it. It is, in fact, perhaps the crudest form of any evolutionary theory with which we are acquainted. Every Central and Northern Australian native believes that he or she is the direct descendant of some ancestral animal or plant, or even, because the animistic feeling has been carried over to them, of some natural or artificial

object. I do not propose to deal with the totemic side of organization further than to say that in some tribes there is no restriction in regard to the marriage of a man of one totem with a woman of the same, and that it is quite possible, judging by tradition, that in the early far-back days such was the normal state, but that now, in the great majority, the marriage of individuals of the same totem is strictly forbidden.

In some tribes the children inherit the totem of their father, in others that of their mother; in others, the totems are so arranged amongst the classes or sub-classes that they cannot inherit either their father's or their mother's, whilst in others, such as the Arunta, every individual is supposed to be the reincarnation of a particular ancestor whose totem he or she therefore inherits.

It must be remembered that Australia is of great extent. The Northern Territory alone is four and a half times the size of Great Britain. We may therefore expect to find considerable differences amongst tribes spread over such a vast area in regard to their customs and beliefs. Though this is so, yet we find, on the other hand, a wonderful agreement in regard to the fundamental features of totemism and exogamy, and of the classificatory system associated with the latter.

I propose to deal only with the classificatory system, which can be studied quite apart from totemism, though the latter has become tacked on to it in various ways.

With the rare exception of a few highly modified coastal tribes, every one has a definite class organization. In the first place, there is always a primary bisection of the tribe into two main exogamous divisions; these may each again divide into two, and each of these once more. This dichotomous division is the characteristic and dominant feature of the organization of Australian tribes. Various writers have applied different names to the two primary divisions, such a phratry, class, and moiety. In view of the fact that amongst American tribes the term phratry has been applied to divisions, which may vary in number from two to ten, and need not be even numbers, it is advisable to use, in regard to Australian tribes, a term indicative of the fact that there are two, and only two, primary divisions. For these, the most suitable term is moiety, which emphasizes the dichotomy without implying that each division is precisely equal in regard to the number of its component members. The two divisions of each moiety may conveniently be called classes and the divisions of these sub-classes. These three terms—moiety, class, and sub-class—are simple, and cannot possibly be misleading.

A man of one moiety marries a woman of another, and their children, in a female descent tribe, pass into the mother's moiety, and in a male descent tribe into that of the father.

So far as the main features of organization are concerned, the tribes over the whole Continent may be divided into three groups — (1) those with female descent and moieties, which may or may not be divided into classes; (2) those with male descent and moieties, which are always divided into classes, which again may be divided into sub-classes; and (3) a few highly modified ones occupying a mere fringe of the Continent, mainly in the extreme north and south-east.

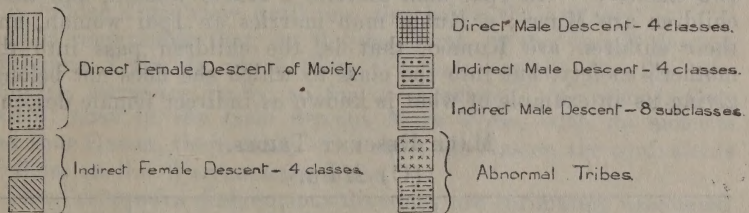
MAP A.



MAP B.



DISTRIBUTION OF TRIBES ACCORDING TO DESCENT OF MOIETY AND CLASS NAMES.



Leaving out of account the last, whose numbers are insignificant, it is an extraordinary thing that the organization of all other Australian tribes, some hundreds in number, and occupying an area only slightly less in extent than Europe, can be represented by that of four tribes; two counting descent in the female, and two in the male line; and, further still, that in each of these two main divisions we have tribes some of which count descent in what is known as the direct, and others in the indirect female or male line, as the case may be. (Maps A and B.)

We will take the Urabunna, of Central Australia, and the Kamilaroi, of New South Wales, as representative of female descent, and the Warramunga, of the Northern Territory, and the Mara, on the Gulf of Carpentaria, as representative of the

male descent tribes. The organization can be shown in tabular form for each tribe, as follows:—

FEMALE DESCENT TRIBES.

(A) *Urabunna*.

Moieties .. {	Matthuri (m.) ..	Kirarawa (f.) ..	Children— Kirarawa (m. and f.)
	Kirarawa (m.) ..	Matthuri (f.) ..	Matthuri (m. and f.)

There are two moieties—Matthuri and Kirarawa. A Matthuri man marries a Kirarawa woman, and the children are Kirarawa, and *vice versa*.

(B) *Kamilaroi*.

Moieties.	1. Kupathin.	2. Dilbi.	3. Dilbi.	4. Kupathin.
Classes .. {	Ipai ..	Kubbi ..	Murri ..	Kumbo
	Kumbo ..	Murri ..	Kubbi ..	Ipai

There are two moieties—Kupathin and Dilbi—each divided into two classes.⁽¹⁾ An Ipai man marries a Kubbi woman, and their children are Murri; a Kubbi man marries an Ipai woman, and their children are Kumbo, that is, the children pass into the mother's moiety, but into the class to which she does not belong, giving us an example of what is known as indirect female descent.

MALE DESCENT TRIBES.

(C) *Mara*.

Moiety.	Muluru.	Umbana.	Muluru.	Umbana.
Classes .. {	Murungun ..	Purdal ..	Murungun ..	Purdal
	Mumbali ..	Kuial ..	Mumbali ..	Kuial

In this tribe, which is typical of a group on the western shores of the Gulf of Carpentaria, we have descent counted in the direct male line, as far as the class is concerned, but in reality each class is divided into two unnamed groups. If, for example, in Murungun we call these Murungun A and Murungun B, then the children of Murungun A are Murungun B, and *vice versa*.

⁽¹⁾ In each table a man of column 1 marries a woman on the same level in column 2 and the children are shown on the same level in column 3. A man of column 2 marries a woman of column 1 and their children are shown on column 4.

(D) *Warramunga Tribe.*

Moieties.	1. Uluuru.	2. Kingilli.	3. Uluuru.	4. Kingilli.
Sub-classes	Thapanunga Tjunguri .. Tjapeltjeri .. Thapungarti	Tjupila .. Thungalla .. Thakomara .. Tjambin ..	Thapungarti Tjapeltjeri .. Tjunguri .. Thapanunga	Thakomara Tjambin Tjupila Thungalla

The moieties are each divided into four sub-classes, and, in addition, though in order to simplify matters not shown here, the women of each sub-class have a name distinct from that of the men. Thus, for example, Thapanunga women are called Napanunga, Tjupila women are Naralu, and so on. The children of a Thapanunga man are Thapungarti, of a Tjupila man Thakomara, &c.; so that here, once more, we have indirect male descent.

These tables show us that in each of the two main groups of tribes, one counting descent in the female and the other in the male line, we find that, so soon as the moieties become divided, first into classes, and then into sub-classes, descent, so far as the class or sub-class is concerned, is always in the indirect line, even if, as in the Mara on the one side and the Urabunna on the other, it is hidden from view until one digs below the surface.

It is remarkable that, on the one hand, in the female descent Urabunna Tribe, in which there are only names for the two moieties, there are really, so far as marriage is concerned, four classes; that in the male descent Mara Tribe, with its moieties and four classes, there really exist eight sub-classes, the equivalents of those in the Warramunga Tribe.

These successive dichotomous divisions are intimately associated with the organization of the various communities and with marriage regulations, and reveal the institution of at least three grades of gradually narrowing restrictions. In regard to these relationships it must be understood that, though we use the terms of consanguinity in current use amongst ourselves, these connote to the native a much wider kinship than we recognise. Thus to a native the terms that we translate as father and mother imply respectively any one who might lawfully have been his father or mother, and the term children, in the same way, applies to the offspring of any woman whom he might, as shown in the preceding tables, have lawfully married:—

(1) The first division divided the community into two moieties. This prohibited the marriage of brothers and sisters, but not that with women belonging to the group of a man's wife, nor of what we call first cousins.

(2) The second division resulted in the four-class system, and prohibited the marriage of brothers and sisters, parents and children, but not that of first cousins.

(3) The third division, resulting in the formation of eight sub-classes, prohibited the marriage of brothers and sisters, parents and children, and of first cousins.

Two things stand out clearly. First, that these dichotomous divisions are the result of deliberate thought and action on the part of the far-back ancestors of the present day aborigines. Secondly, that, from whatever motives they sprang, they resulted in a gradual restriction of the numbers of mutually marriageable individuals, and it looks very much as if in some cases they were definitely designed to protect the interests of the older men, backed up, as they take very good care that it always shall be, by the dread of evil magic, in which every native has the most implicit faith, and by which he believes that every breach of tribal rule will, sooner or later, inevitably be punished.

This deliberate action is seen still more clearly in the arrangements made when male and female descent tribes come in contact with one another in order to determine that the marriage arrangements of the parents and the descent of the children shall fit into the system of each tribe.

This can be illustrated by the following table, which shows the actual method by which the counting of descent in the female line in the Urabunna Tribe, with its two moieties, is made to fit in with the counting of descent in the male line in the adjacent Arunta, with its four classes:—

(1) *Urabunna Tribe.*

Moiety A.—Matthuri male marries Kirarawa female,
children are Kirarawa.

Moiety B.—Kirarawa male marries Matthuri female,
children are Matthuri.

(2) *Arunta Tribe.*

Moiety A.—

Panunga male marries Purula female, children are
Bulthara.

Bulthara male marries Kumara female, children are
Panunga.

Moiety B.—

Kumara male marries Bulthara female, children are
Purula.

Purula male marries Panunga female, children are
Kumara.

On the borders of the two tribes, where they come in contact with one another, and where every now and then intertribal marriages take place, there is a deliberate change in the grouping of the classes to fit in with the maternal or paternal line of descent, as the case may be. This is shown in the following table:—

Arunta.	Urabunna Arrangement of the Arunta Classes.
Bulthara } Panunga } Moiety A. Kumara } Purula } } Moiety B.	Bulthara } Purula } Moiety A. (Matthuri) Panunga } Kumara } } Moiety B. (Kirarawa)

If, for example, a Matthuri man goes into the Arunta Tribe, then he is told by the old men of the local group into which he has gone that he is, say, a Bulthara. Accordingly, he marries a Kumara woman, or, if he already has a wife, she is regarded as Kumara, and their children are Panunga, or, in other words, they pass into the father's moiety, as the classes are arranged in the Arunta, and into that of the mother in the Urabunna Tribe.

Nothing could be more deliberate than these arrangements, but by some recent writers the suggestion of deliberate action to regulate marriage in Australian tribes, as put forward by Dr. Howitt, Mr. Gillen, and myself after long personal experience in the field, is entirely rejected. It has been styled the reformation theory, and as⁽¹⁾ making "the conscious attainment of a better state of society the object of the institution of a dichotomous organization."

This shows a serious misunderstanding of the question at issue, and also a lack of appreciation of the capacity and mental outlook of the Australian savage. By the use of the word "better" it rather begs the question, and also conveys a wrong impression. The Australian savage, as far as I am aware, has no word which connotes to him the moral significance that the word "better" does to us. For him, if he had an equivalent term to use in regard to this dichotomous division and its consequent restrictions and results, it would imply either more convenient for the general management of tribal affairs or more likely to serve his own personal interests, but it would in no way refer to physiological or what we call moral matters. As Sir James Frazer says,⁽²⁾ "men have very often done right from the most absurd motives," and, in the case of savages, I would add, from the most self-considering motives.

(1) N. W. Thomas, "Kinship, Organization, and Group Marriage in Australia," page 69.

(2) Sir J. E. Frazer, "Totemism and Exogamy," vol. 4, page 160.

The authority of Sir James Frazer in regard to all matters concerned with cultural anthropology is so pre-eminent that, in connexion with this question of deliberate action, I venture to quote two more short passages from his monumental work on Totemism and Exogamy. In the first he says,⁽¹⁾ "It is hardly too much to affirm that no other human institution bears the impress of deliberate design stamped on it more clearly than the exogamous classes of the Australian"; and, in the second,⁽²⁾ "The truth is that all attempts to trace the origin and growth of human institutions without the intervention of human intelligence and will are radically vicious and foredoomed to failure."

When our knowledge of the organization of the tribes from the fundamental point of view of counting descent is plotted down in map form (Map A), the striking feature is that Australia is very clearly divided into East and West. On the East there is female and, on the West, male descent, with the exception in each case of what may be called abnormal tribes inhabiting coastal land. Such information as we yet have of the organization of the tribes of the York Peninsula, and of the southern part of Western Australia, and of the south-western part of South Australia, is both too insufficient and too unsatisfactory to base any safe conclusions upon, but the main division into East and West stands out clearly.

In association with the system of exogamy and class organization there has been developed a most complicated and yet homogeneous system of counting relationship, including in this both consanguinity as known to us and the far wider relation of kinship as understood by the Australian aboriginal.

There are in regard to this two features of special interest. The first is that, as a result of it, every individual member of a tribe stands in a definite relationship to every member, not only of his or her own tribe, but to those of every other tribe with whom he or she may come in contact. The second is, perhaps, of still greater interest in view of the fact that we may expect to find amongst Australian savages relics of customs associated with early stages of the development of human society. This second feature is that all terms of relationship, save a very few, are group, and not individual, terms. Even the very few special individual terms that exist retain in part the form of group terms. These terms of kinship and relationship are widely different from, though they include, those of consanguinity as known amongst ourselves. Kinship is a matter of law, or, amongst savages, of custom. Consanguinity is physiological, and the two are only

(1) Sir J. E. Frazer, *op. cit.*, vol. 4, page 106.

(2) Sir J. E. Frazer, *op. cit.*, vol. 1, page 281.

faintly differentiated amongst Australian tribes, or, rather, we find only the earliest rudiment of a recognition of terms of consanguinity as known to us.

With our present knowledge of the classificatory system and terms of kinship, and of sundry customs connected with special ceremonies as at present existing, it is possible to form some idea of the earlier and more primitive habits and customs of their ancestors. Just as amongst higher animals vestigial structures point back to ancestral conditions, and amongst various peoples vestigial customs indicate the habits of earlier times, so does our knowledge of the organization of the present tribes indicate a time when there was no such thing as individual relationship recognised. The whole organization is based on the clear recognition of group relationship, with here and there foreshadowings of the recognition of individual relationship, and the former, which included in those far-back times group marriage, with its corollary of group responsibility and unity of action, both for offence and defence, probably played an important part in the social development of early mankind. The family, as we know it now, is a development of a time later than that at which the ancestors of the present aborigines made their home in Australia. The comparatively narrow terms of consanguinity, also based upon physiological data as known to us, have replaced a wider recognition of kinship, such as we meet with in Australian tribes, that had no relation to physiological factors.

I now pass on to deal with the problem of the development of the customs, beliefs, and arts, which, taken all together, form the culture of the aborigines. It is a difficult one to solve. There are many aspects that must be taken into account, and the evidence afforded by a study of the geological, biological, and climatological conditions, as they exist now and did in the immediate past, must be carefully considered.

Put very briefly, the following may be regarded as the main points of importance in regard to these, so far as the Australian culture problem is concerned.

From the geological point of view it seems most probable that in late tertiary times there was a large land mass, including the present Australia, New Guinea, and Tasmania. The historic "Wallace's line," between Bali and Lombok, may not be as absolutely defined as once it was supposed to be, but on the whole it still holds good, and indicates a decisive line of cleavage between Asia and Australia. It definitely isolated the latter from the land masses on the north, and must have been established long before the earliest ancestors of mankind had been developed, during Pliocene or perhaps even earlier times.

At a subsequent period the large Austral Continent became divided into two parts—(1) a northern, consisting of the present Papua and adjacent islands; and (2) a southern, including the present Australia and Tasmania. During early Pleistocene times there was probably a considerable extension eastwards of the coast line of Australia, as compared with what obtains at present, affording a more or less easy transit along this side of the Continent to its most southern part, which later became separated off by the formation of Bass Strait.

So far as Australia is concerned, it appears that during at least a considerable part of early Pleistocene times, when the ancestors of the present aborigines were spreading over the Continent, conditions were much more favorable than at present. At that time, great rivers represented now by the Barcoo, Warburton, and Finke, flowed down from the highlands of Queensland, New South Wales and Central Australia, and emptied their waters into the Southern Ocean by way of what are now the drowned valleys of Spencer and Vincent gulfs. These river courses, together with that of the Murray, determined the line of migration of the early aborigines on the eastern and central areas of the Continent. Later on there was developed the sag that resulted in the formation of the present depression centering in Lake Eyre, and the consequent shutting off of the communication of the great central rivers from the Southern Sea. The rivers, save the Murray, now flowed inland and with increasing desiccation, the central area of the Continent, to a large extent, separated, climatically, West from East Australia. So far as Tasmania is concerned, it appears to have been separated from, and re-united with, the main land more than once, the last union probably being in early Pleistocene times, a subsequent sinking of the land transforming the south-western corner of the old Continent into the Island of Tasmania.

From the biological point of view, the evidence is quite conclusive in regard to the early separation of Australia from Eurasia. Apart from bats or insects that can fly or be carried by winds across stretches of water, mice and rats, that can be carried in boats and drifting logs, Australia has received no immigrants by land from Eurasia since the Cretaceous period. She received the ancestors of her very distinctive marsupial fauna from the ancient American continent, most probably by way of Antarctica, when what is now Tasmania was still a part of the Continent. The lung fish, *Ceratodus*, and the Monotremes, *Echidna* and *Platypus*, and such lower forms as *Peripatus*, are relics of a more ancient fauna once widely distributed, but her characteristic marsupials came at a later date, and the most specialized of them, the Diprotodonts—kangaroos, native bears,

wombats, and phalangers—have been evolved within the limits of Australia itself, indicating the complete isolation of the Continent for long ages, so far as influence by direct contact from outside is concerned in the case of the fauna.

From the point of view of climatology, the distribution of the rain belts in Pliocene and Pleistocene times, as plotted down by Dr. Griffith Taylor, is of considerable interest in regard to the possible migration of peoples to Australia from the north. The charts show that, during the Pliocene, the hot moist belt came much farther south than in the later Pleistocene, with the result that the centre of aridity came farther and farther south, affecting seriously the parts of Australia lying within the temperate zone, but at the same time favorably affecting the northern part of the Continent. It would seem to be very probable that, later on, the reverse movement northward of the centre of aridity during Pleistocene times may have exercised a profound influence on the migration of peoples coming down from Asia into Malaysia, and spreading thence southwards into Australia.

Turning now to the consideration of the culture of the present Australian aborigines and its origin, there are, in regard to it, three features of outstanding importance and interest. First, the broad division of the Continent into an eastern half with female, and a western with male descent tribes. Second, the extraordinary homogeneity of the tribes scattered over the whole Continent in regard to the fundamental features of their class organization, and, to a large extent, of their totemic systems. It is true that the latter vary, but the different forms merge into one another. Third, in strong contrast to the second, is the wide divergence of tribes with identical or closely similar organization and totemic systems in regard to customs such as those concerned with initiation, burial ceremonies, the making of fire, and such other features as the nature of their weapons and their schemes of ornamentation and design.

The question arises whether the Australian aborigines owe their present culture to the result of interactions between different immigrant peoples, or whether their immediate ancestors brought with them certain customs, beliefs, and arts, representing those held and practised by early mankind, and, isolated in Australia, have developed along various lines without influence from outside. Several theories have been put forward to explain the present conditions.

It is evident that there have been, at all events, two main immigrations, an earlier one of a primitive ulotrichous people, and a later one of a more highly developed race. It seems probable that important dispersions of early representatives of various races, those of Australia amongst them, took place from the Eurasian

land mass, probably in association with the alteration of severe glacial and mild inter-glacial conditions during the Pleistocene period. The first to reach Australia were the ulotrichous people, of whom traces persist in Africa, Papua, Melanesia, and did, till lately, in Tasmania. The ancestors of the present Australians were possibly associated with a second dispersion, the members of which reached America, Africa, Malaysia, and Australia, but not Tasmania.

These early races have been pushed out, as it were, into the corners of the world; and, so far as Australia is concerned, it is important to note that the people who arrived here as the result of the second migration have been isolated, and also protected from further dispersions in a way quite different from those of Asia, Africa, and America. Whilst the native tribes of the latter associated with this migration retain, doubtless, many more or less primitive customs and beliefs, they have been, of necessity, influenced by later migrations that have not reached or affected the Australian aboriginals, whose isolation by land has been complete.

It seems most likely that the original migrants entered Australia at the north-east in Pliocene or very early Pleistocene times. Whether they came from Asia or from America, as Sergi suggests, whether they migrated southwards along the Eastern coast line, which was then more extensive than it is now, it is impossible to say definitely. They have left no traces of their movements or occupation of the land behind them. The Talgai skull—the earliest trace of man in Australia—has, according to Dr. Smith, no special relation to the Tasmanian.⁽¹⁾ Finally their surviving remnants found shelter and safety from the second immigration in Tasmania until such time as, most unfortunately for themselves, they came in contact with the third—that of the white man.⁽²⁾

Sir William Flower originally suggested a mixture of a frizzly-haired Melanesian, the *Homo tasmanianus* of Sergi, with a dark-coloured Caucasian; Mathew, a mixture of the same with a lighter coloured Dravidian; Sergi has more recently suggested a Polynesian immigration fusing with the Tasmanian stock; and more recently Berry again suggests that the Australians have arisen as a cross between the Tasmanians and some other stock. I would suggest that the points in common between what Sergi calls the lophocephalic Tasmanian-Australian skulls may be due to a community of origin in the far past, before the immediate ancestors of the present Australian had appeared; and it may be

(1) Dr. S. A. Smith.—The Fossil Human Skull found at Talgai, Queensland. *Phil. Trans. R.S.*, 1918, p. 383.

(2) Since the above was written an article has appeared in *Nature* (Jan. 6, 1921), in which Professor Keith says: "On a consideration of all his features we must place the Talgai boy in the ancestral stock of the Tasmanian type of Australoids."

possible to account for the great variations in skull form without calling in the assistance of any such mixture, or regarding the Australian as a hybrid. The remarkable variations described by investigators on both the physical and cultural side may, perhaps, when all factors are taken into account, be regarded as indicating the present Australian race to be, not a specialized one, but a very generalized one with nascent possibilities of development along many varied lines.

Though I am dealing primarily with the origin of the culture of the aborigines, it is of importance to note this fact, that in their skull form and measurements they vary to a most remarkable degree, indeed, amongst five Central Australian tribes I found the cephalic index of the men varied from 80.5 to 66.6; and, in connexion with the extraordinary variations that we meet with in regard to structure, customs, beliefs, and arts, the words of Professor Keith are of deep significance. He says, "So far, no fossil remains of man have been discovered in Australasia; but there is no need to seek there for fossil forms. Ancient and primitive man still survives—more primitive than any fossil form of modern man yet found in Europe. Sir William Turner measured the brain capacity of 24 skulls of native Australian women. The mean capacity was 1116 c.c., one was as low as 930 c.c. With brains of a smaller size than 930 c.c. we can scarcely expect a human intelligence. Of all the races of mankind now alive, the aboriginal race of Australia is the only one which, in my opinion, could serve as a common ancestor for all modern races. . . . The Australian native has those intermediate and generalized characters needed for such an ancestral form."

This statement, coming from such a high authority, is at least very suggestive, but geological and other evidence would appear to be against the possibility of the Australian aboriginal being actually the common ancestor of all modern races. On the other hand, it may well be that he is the survivor of such a common ancestor, and that this fact gives us the clue to the significance of his remarkable variation from both a physical and cultural point of view.

There is one point of importance to which attention must be drawn. In the very interesting and suggestive papers published by Professor Berry and his students, Drs. Buchner, Robertson, and Cross, tables are given to show the great variation in measurements of Australian skulls and others to illustrate the place in nature of the Australian aboriginals, and the comparison of both with prehistoric and recent forms of man. In one of these, the Tasmanian is shown as standing decidedly higher than the Australian; in fact, quite close to the Cromagnon. Professor Berry says, "The modern-day Australian aboriginal stands rather

nearer to the anthropoid ape, or the common ancestor, than did the Tasmanian." Fortunately, we know quite enough of the culture of the Tasmanians to prove, without the shadow of a doubt, that their culture stage was not only at a decidedly, but at a vastly lower, level than that of the Australians, their successors on the mainland. To take their stone implements only, there is precisely the same difference between these and those of the Australians as there is between those of the lowest Mousterian and of the Cro-magnon—the highest of prehistoric men. These tables show how dangerous and entirely misleading it would be to rely, except in a very general way, on skull measurements only as a guide to cultural level or mental capacity amongst either living or extinct races.

No theory yet proposed of a cross between two peoples—one resident in Australia, the other an immigrant—takes into account the undoubted fact that, if two races are at a decidedly different level of culture, as most certainly were the primitive indigenes and those who next reached Australia, it is extremely improbable that there would be any amalgamation on equal terms. The weaker and less cultured would certainly be exterminated by the stronger and more highly cultured. On the theory, as advocated by Mr. Mathew,⁽¹⁾ of the amalgamation of a lighter with a darker people, based on the supposition that in certain tribes the "phratry" names may be interpreted respectively as eaglehawk and crow, or black cockatoo and white cockatoo, the dark bird indicating the original ulotrichous strain, it is somewhat difficult to understand the fact that the present Australians are uniformly of the same colour, and that they never possess true woolly hair, one of the most striking features of the Tasmanian.

It looks, indeed, as if there had been a repetition of what occurred in Europe when the Neanderthals were either forced out or exterminated by the Cromagnons of Aurignacian times. Professor H. F. Osborn says, "no evidence has thus far been found that even the Neanderthal women were spared or allowed to remain in the country, because in none of the burials of Aurignacian times is there any evidence of the crossing or admixture of the Crô-Magnons and the Neanderthals."⁽²⁾ Exactly the same may be said of the primitive inhabitants of Australia and of the later immigrants, who may quite probably have been associated in their origin with the Cromagnon race that was probably developed in Asia, and thence swept westward into Europe, and possibly eastward, and finally southward into Australia.

It is a very difficult problem to decide as to whether there was or was not any immigration subsequent to this second one. It is,

(1) Rev. J. Mathew, "Eaglehawk and Crow."

(2) Osborn, "Men of the Old Stone Age," page 272.

at all events, very difficult to believe that there have been any such definite migrations as those of the Kava and Betel nut people, as suggested by Dr. Rivers, to account for certain aspects of Melanesian culture.

Dr. Rivers⁽¹⁾ has suggested that "The history of Australian culture and its present nature become far easier to understand if there has been a gradual infiltration of seafaring peoples, starting from many points on the coast; if immigrants, few in number, first formed small settlements on the coast, and passed on their culture to the interior of the continent by gradual secondary movements."

In connexion with the suggestion of small immigrant parties landing at many points on the coast, there are two or three matters that must be taken into consideration. In the first place, Australia is a continent, and not a comparatively small island like those forming the Melanesian or Polynesian groups. There can be little doubt but that the second and main immigration was on, at least, a very considerable scale, large enough to allow the immigrants to populate, as they certainly did, the whole Continent, as is proved by the fact that the fundamental features of the complicated social organization are practically identical everywhere; once developed, no subsequent immigration, if such has taken place, has apparently affected them.

It seems probable that the entrance into Australia of the second migration took place in early Pleistocene times, and it is important to note that in succeeding years the hot arid zone gradually crept further and further northwards. This hot arid zone included the northern parts of Australia, and extended across into Papua. The northern littoral of Australia would then have a climate more or less similar to that of Central Australia at the present day. Nothing strikes the traveller in the Northern Territory, right up from the Tropic of Capricorn to Darwin, more than the absence of tropical vegetation. On the eastern coast of Queensland, in parts, there are rich scrubs where the remnants of a flora, and, to a small extent, of a fauna reminiscent of Papua exist. In the very centre of the Continent there is, in the Macdonnell Ranges, entirely isolated and surrounded by tracts of dry arid country spreading over endless distances, just one gorge, 2 miles at most in length, where a small colony of palm trees gives a hint of a past climate very different from that of the present. For the most part, the one striking feature of Northern Australia is the almost entire absence of anything like a luxuriant tropic vegetation or any abundance of animal life.

(¹) Dr. W. H. R. Rivers, B.A.A.S. Report, 1914, page 530.

Northern Australia has evidently not yet recovered from the arid conditions which prevailed when, at all events, the later immigrations from Malaysia to the Pacific Islands were in progress. Supposing that some of these coming from the far more fertile islands of Malaysia had landed on Northern Australia, they would have encountered nothing but dense mangrove swamps or barren forbidding sandhills, with scanty or no water supply, scarcely an animal and no fruits to provide them with food—conditions far different from those to which they had been accustomed. If they attempted to travel south, either along the west coast of the Continent or the eastern or western shores of the Gulf of Carpentaria, or down Cape York Peninsula, they would have found just the same depressing conditions, and one can only think that they would, so to speak, have gladly taken the first boat home and thankfully left Australia and its aboriginals alone.

Dr. Rivers points out that his suggestion “can only stand if there has taken place in this region that degeneration and even loss of so useful an object as the canoe, of which we have definite evidence in Melanesia and Polynesia.” To this it may be replied, in the first place, that the Northern Territory aboriginal has his own bark canoe, which is by no means inefficient so far as crossing even open stretches of ocean waters is concerned. He has also a dug-out canoe, which may have been received from the Malays in exchange for trepang and tortoiseshell, and on the north-eastern coast of Queensland he has adopted an outrigger canoe, received by way of the Torres Strait Islands. So far as can be said at present, these are the only things that he has adopted from outside.

To any one who has had experience of the wild native tribes on the northern, north-western, and north-eastern coasts of Australia, there is very considerable difficulty in accepting the suggestion of Dr. Rivers that small seafaring parties landing at various points would be able, even if they could find sufficient food to live upon, to influence the aboriginals. Personally, at that early date I should have been very sorry to have formed a member of any such small party. When white men, fully armed, landed on Melville Island in 1823, and entrenched themselves, the natives not only declined to have anything to do with them, but the very able way in which they made things uncomfortable for the intruders was, at least, an important factor in the decision to abandon the military settlement. There was one little group of castaways who landed in years long gone by on the northern coast of Australia, and on the walls of rocks and caves of what is now known as the Kimberly district did apparently attempt to introduce a new and foreign element into the art of Australia. What else they tried to introduce, we do not know. This we do know, that neither their

art nor anything else associated with them had the slightest influence on the tribes amongst whom, most unfortunately for themselves, they were stranded, and by whom most probably they were literally absorbed. For many years past the Malays have been visiting the northern coast, and yet, except for the fact that the native has probably learnt from them the use of the dug-out canoe, they have had no cultural influence on the aborigines. I have only once amongst the wild tribes seen a half-caste between a Malay and an aboriginal. Speaking generally, it may be said that there is no admixture of the two people, either in blood or customs, and, further still, Mr. Sidney Ray tells us that there is no trace of Malay influence in the native language. It must, of course, be remembered that the Malays do not come down with the intention of settling in a country that could not provide them or any other immigrant from the north with what they can easily secure in their own home; but this strict and mutual aloofness of the immigrant and aboriginal is, at least, very suggestive in connexion with the theory that small parties of seafaring people have landed at various places in Australia and influenced the culture of the native tribes.

We may finally consider the question of the origin of certain features of the latter from another point of view. Dr. Rivers, as already said, and the same is true of other recent authorities, regards the origin of complex cultures, such as those of Melanesian and Polynesian islanders, as due to the interaction of different peoples each with its own beliefs and customs. It is, however, worth considering whether some other explanation is not more feasible in regard to the undoubtedly complex Australian culture.

As pointed out already, the latter includes an extraordinarily homogeneous, but at the same time complicated, social organization, a slightly less, but still remarkably homogeneous, totemic system, together with numerous customs and very many forms of arts that are characteristic of various savage races and of pre-historic peoples at different levels of culture in other parts of the world.

I have, in the first place, endeavoured to show that, owing to adverse climatic conditions, it is most improbable that any permanent lodgment of immigrants on the northern coast line has taken place since the immediate ancestors of the present aborigines entered Australia. There can, further, be no doubt but that when the latter spread over the Continent the conditions of inter-communication were much more favorable than at present. Before and during the breaking-up of the original immigrants into first larger groups, possibly indicated by the present "nations," and, later still, into tribes, there must have been some form of organization. It is probable that at first the totemic

relationship was of primary importance, but, later on, with the dichotomous divisions of the original communal body, of the existence of which the present group organization and other features in regard to customs, show indisputable proof, the present social organization with its moieties, classes, and sub-classes came into existence.

This system of group relationship and kinship was of fundamental importance in regard to intertribal relations, and has persisted unchanged in regard to all essentials. On the other hand, the various tribes or local groups of allied tribes developed various customs, beliefs, and arts that were of interest to themselves and did not fundamentally affect their relations with other tribes.

After this clear-cut social organization had been developed, the tribes on the East, due probably to climatological and physiographic causes, became separated off from those on the West. The Eastern side retained what may have been a more primitive method of counting descent in the maternal line, on the West they developed father descent.

In view of the fact that the moieties, classes, and sub-classes can be homologized right through the whole of Australian tribes, and that even when a matri-lineal tribe comes into contact with a patri-lineal one there is not the slightest difficulty in any individual being told in what particular relationship he stands to every member of the tribe that he may be visiting, I think we may feel sure that this system, which is at once so complete in itself and characteristic of Australia, has been developed within Australia, and that the division into matri-lineal and patri-lineal tribes arose, not only after the original dichotomous division, but after the still further division into classes or sub-classes. There is no reason why, starting with group marriage, descent should not be counted in the male just as easily as in the female line; but, in view of the fact that in patri-lineal tribes we find clear recognition on certain occasions of the importance of the mother's group, and, as far as I am aware, no corresponding evidence of the reverse in matri-lineal tribes, I am now inclined to think that, in Australia, descent was originally counted in the female line. How the change was inaugurated it is impossible to say, but, had it been due to contact with later immigrants, it is impossible to conceive that the complicated organization governing both of these systems should have been, not only conserved, but retained in detail in each group.

Any immigrants introducing male descent must have brought with them their own organization that must also inevitably have influenced that of the tribes adopting their system. On the other hand, if the change was an internal one, there would be no need

for any fundamental changes in the method of counting relationship. The only difference would be that the children would automatically pass into a class or sub-class on the father's instead of the mother's side of the tribe, and thereby, *ipso facto*, stand in certain definite relationships to every other member of the tribe. In any case, the change from matri-lineal to patri-lineal descent is a sharply marked one, and may very probably have taken place quite independently in various parts of the world—Australia amongst others.

If now we turn to the consideration of the customs and beliefs of the various tribes we meet with the most bewildering confusion and complications. To take only four examples, which are, however, of great significance, we find, apart from abnormal ones, four methods of counting descent—matri-lineal, direct and indirect, and patri-lineal, direct and indirect—at least six entirely different methods of treating the dead, each of which is found in other parts of the world; five or six distinct initiation ceremonies; and three distinct methods of fire-making, each of which again is met with elsewhere.

The problem of multiple or single origin of similar inventions, beliefs, and customs is a difficult one to solve, and during recent years it has been strongly urged by many anthropologists that multiple origin is impossible, even unthinkable.

Professor Elliot Smith,⁽¹⁾ who may be regarded as representative of this school, says, "As to the possibility of any invention originating independently in more than one centre, the facts of history, no less than the common experience of mankind, are fatal to any such hypothesis." This is a wide-reaching conclusion, but with all due deference to the opinion of such a distinguished authority, I venture to think that, though it may be impossible to prove it absolutely, yet there is, at least, certain evidence of a very suggestive nature in regard, not only to Australian culture, but to Australian animals, that points in the direction of the probability, or at least the possibility, of the polygenesis of similar customs, beliefs, inventions of various kinds, and also even of details of bodily structure. With regard to that of identical ideas and theories, we have the historic case of Darwin and Wallace, and the existence of this alone may well give us pause before denying absolutely the possibility of the independent origin of any two things, be they beliefs, customs, or inventions, dependent for their origin on the brain and thought of man.

First of all, we may consider certain features revealed by a study of the mammalian fauna of Australia, which I think are not without significance in regard to the problem of the Australian native. The earliest mammals, now represented by platypus

(1) Professor Elliot Smith, "Man," 1915, No. 92, page 162.

and echidna, are only, as it were, just emerging from reptility—they still lay eggs, but they also suckle their young, though by means of modified sudorific, and not sebaceous, glands, as in all other mammals. In them, the pouch is only nascent. Next come the marsupials, amongst whom the lacteal gestation, associated with the pouch, is markedly emphasized, almost to the exclusion of the placental, though, as shown by Hill in his brilliant investigations, there are in certain marsupials indications of this, which is the most characteristic feature of the Eutheria, in some of which, again, we find traces of the pouch.

The early ancestors of mammals must evidently have possessed in their germ cells factors capable of determining, amongst other things, the manner of feeding and carrying the young—not one set of factors in one group and different ones in another, but, as it were, a mixture of factors in all, some of which in different groups have become dominant, while others have become over-ridden, or inhibited. Otherwise, it seems difficult to understand why in marsupials we have one form of gestation strongly and the other only partly developed, and yet both present, and why in Eutheria we have the strong development of the second (placental), and yet traces of a pouch, indicating the possibility of a prolonged lacteal gestation. Further still, in regard to the possession of common factors such as these, which may well lead to polygenesis, we have the striking fact that within the limits of the Marsupialia there are, while still retaining their marsupial character, families each of which, so far, for example, as its dentition is concerned, is closely similar to one or other of the Eutherian orders, and adapted to the same method of life. We find carnivorous forms, such as the Thylacine, whose skull and dentition is built up on the same lines as the dog; *Dasyurus* and *Sarcophilus* closely similar to the cat tribe; bandicoots and *Myrmecobius* with distinct insectivorous dentition; kangaroos and others with herbivorous dentition. To mention only one other, but a most suggestive example, we have in the gnawing wombat the incisors built on fundamentally the same plan as those of the Rodentia, with a coating of hard enamel almost, or entirely, confined to the front surface. In fact, with the exception of the true flying bats and sundry sea forms, we can parallel in the Marsupialia each distinctive group of the Eutheria, and yet it is certain that the former have been isolated for long ages in Australia, and, springing from common ancestors, have developed along lines similar to those of the Eutheria. This suggests once more that the early, but little, differentiated, ancestors of mammals must have possessed in their germ cells certain factors capable of determining the development of their descendants along various lines. To put it crudely, in some cases carnivorous, in others the

herbivorous, the gnawing or the insectivorous factor has been dominant; but at the same time the group of early mammals now represented by the marsupials possessed also some dominant factor in their germ cells that determined the strong development of the lacteal gestation, and prevented them from passing beyond the marsupial stage.

I have laid stress upon this, because, whilst only affording indirect evidence in regard to the possible polygenesis of similar customs and inventions amongst human beings, it indicates that what are morphologically similar features of primary importance can be independently developed in groups of animals that have for long ages been completely isolated from one another.

In regard to the culture of Australian aboriginals, we may regard their ancestors as in the same relative position to them as were the early ancestors of the mammalia to the Australian marsupials. The present aboriginals are the descendants of a relatively early stock of human beings, and we may presume that in their germ cells they possessed factors bearing the same relation to the future development of the human race as did those in the germ cells of primitive mammalians to the varied descendants of the latter. If we are to accept the theory that there is no such thing as the independent development of similar beliefs, customs, and inventions, that if we find two similar customs in different and widely separated parts of the world, we must assume a common origin for them; or if, on the other hand, we find, for example, two different modes of treating the dead side by side, this can only be explained by interaction between an indigenous and an immigrant people, each with its own special customs, then we meet with grave difficulties in regard to the Australian culture.

We must postulate at least five separate immigrations to account for the very different forms of initiation, at least five others to account for the burial customs, and at least three to account for the methods of firemaking. Not only this, but, as in Australia we have in use at the present day a practically complete series of stone implements, representing all the various stages of culture known in prehistoric Europe, from the oldest and most crude coliths of the earliest Mousterian period, through various forms of flaked implements to the polished neolithic axes and the delicately chipped leaf-shaped spearheads common to the natives of North-west Australia and early Solutrean man in Europe, we must, according to the proposed theory, postulate several immigrations to account for them, because surely a flaked-stone implement made out of quartzite and a polished made out of diorite must be regarded as distinct inventions, indeed, in prehistoric Europe they

are regarded as typifying distinct periods. Further still, the remarkably distinct art and craft work and scheme of design characteristic of various parts of Australia, as represented in the beautifully carved shield of Victorian and Murray River natives; the characteristic design on the shields of certain tribes in Queensland; the bark drawings, purely Australian in their motive, of the Alligator River and other tribes in the far North; the characteristic zigzag pattern and square designs of Western Australia; the concentric circles and spirals of Central Australia; the varieties in the form of boomerangs and other weapons show an endless capacity for variation and invention.

If, for example, in various groups of tribes we found, say, the knocking out of a tooth at initiation associated always with counting descent in the female line, and with ground burial and other customs, it would be possible to realize the existence in past times of a series of migrations of peoples bringing with them such customs as these; but this is exactly what we do not find. We meet with a hopeless mixture and combination of customs, so that if the existence of a large number of these be due to the influence of contact with various groups of immigrant peoples, we must allow for a most extraordinary number of such, and must recognise also the most remarkable way in which one tribe, or group of tribes, picked out and adopted one special feature from one immigrant people, and others from other groups.

Instead of the history of Australian culture and its nature being rendered far easier to understand on the theory of successive migrations, the reverse, taking all things into consideration, would seem to be pre-eminently true.

It is much simpler to account for all this complexity, which really becomes simplicity when we investigate the beliefs and customs of the tribes, or groups of tribes, one by one, on the same theory that we have already applied to the explanation of the remarkable diversity of structure amongst the marsupial fauna, which has most certainly not been influenced from outside since its little differentiated ancestors first reached Australia. Bateson has said,⁽¹⁾ "I feel no reasonable doubt that, though we may have to forgo a claim to variations by addition of factors, yet variation, both by loss of factors and by fractionation of factors, is a genuine phenomenon of contemporary nature. If, then, we have to dispense, as seems likely, with any addition from without, we must begin seriously to consider whether the course of evolution can at all reasonably be represented as an unpacking of an original complex which contained within itself the whole range of diversity which living things present."

(1) Presidential Address. Report, B.A.A.S., Australia, 1914, page 17.

I think we may say that it looks very much as if in Australia, both in regard to its characteristic mammalian fauna and its aborigines, we have a remarkable example of such an unfolding or unpacking of an original complex. This has led, without any outside influence, to the development, on the one hand, of mammalian forms, along lines parallel to those pursued in regard to fundamental features by higher forms in other parts of the world, but controlled, at the same time, by some factor or combination of factors that has determined the retention of their marsupiality. On the other, it has led to the independent development of a race of human beings along lines parallel to those pursued by other early races of humanity elsewhere, but always again controlled by some factor or combination of factors that has prevented them from developing into anything higher than men of the stone age.

For us in Australia, so far as the aborigines are concerned, we have two duties clearly marked out. The first is to study as carefully and intensively as possible, their customs and beliefs, and all that is included under the term of their culture, because they stand further back in time record amongst human races than any other people still existing; they represent the last surviving relic of really primitive stone-age people; and it can only be a matter of comparatively a few years before they are extinct, or the surviving remnants of the tribes have lost all knowledge of their original habits and customs. The second is to protect them, as far as possible, not only from us, but from themselves, in the new environment that we have created for them, and with which, left to themselves, they are totally incompetent to cope.



